

# SwitchProbes

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This chapter provides information on the SwitchProbe network monitoring probes. The information is organized into the following sections:

- Product Overview
- Standard Features
- Product Numbers

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**Note** Documentation for SwitchProbes is available in two forms: on a CD-ROM called Cisco Connection Documentation, Enterprise Series (formerly called UniverCD) and printed books. You can request a free copy of the documentation CD when you place an order and have the option of subscribing to a CD update service. A user guide ships with each switch.

You can also access Cisco technical documentation on the World Wide Web URL <http://www.cisco.com>. For more information, see the chapter “Documentation” at the end of the catalog.

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## Product Overview

Cisco now offers a complete family of standalone enhanced remote monitoring (RMON) probes for monitoring any segment, ring, or switch link in an enterprise network. Cisco SwitchProbes employ the powerful EnterpriseRMON agent technology. Unlike other RMON implementations, EnterpriseRMON monitors traffic at the physical, network, and application layers. A typical enterprise network can be equipped with multiple SwitchProbes with one probe connected to each critical link or to a switch’s diagnostic port. SwitchProbes are managed and controlled from a centrally located network management console.

Fast Ethernet, FDDI, and CDDI SwitchProbes use a high performance Pentium processor to monitor all nine RMON-MIB groups. The high performance Pentium processor allows users to gather RMON-based statistics for all network traffic activity.



## Standard Features

SwitchProbe network monitoring probes support the following features:

- High-performance 100-MHz Pentium processor in Fast Ethernet, CDDI, and FDDI SwitchProbes; high-performance 486 processor in Ethernet and Token Ring SwitchProbes
- Support for all ten Token Ring RMON MIB groups as defined in RFC 1757 and 1513
- Compatible with any SNMP -based network management system
- Virtual analyzer for 7-layer Enterprise RMON concurrent monitoring of multiple network parameters
- Support for monitoring of half- and full-duplex Fast Ethernet links
- In-band/out-of-band configuration support via BOOTP and TFTP
- Support for duplicate Internet Protocol (IP) address detection
- Support for 62.5/125-micron multimode FDDI
- SMT support for FDDI/CDDI for enterprise-wide standard diagnostics
- Support for single- and dual-attached FDDI physical connections

SwitchProbes can be easily installed by simply typing in the IP address and connecting the probe to the network. Once connected, SwitchProbes immediately begin collecting RMON statistics. Upon power on, the SwitchProbe automatically collects default statistics for etherStats, host, history, and matrix groups. The SLIP interface can be used to dial in or out from a remote probe.

SwitchProbes can be easily managed from a remote site through in-band or out-of-band links. BOOTP support allows any probe to be automatically assigned an IP address and name. TFTP allows any probe to be updated with the most current release of software. NSLogin allows the administrator to change the probe's configuration files from a central site.

Table 283 and Table 284 list product specifications, and Table 285 lists product numbers for SwitchProbe network monitoring probes.

The SwitchProbe for FDDI has built-in support for monitoring and capturing station management (SMT) frames. This capability allows TrafficDirector to filter and decode all SMT frames and to present an active ring map and topology for all FDDI devices on an FDDI segment.

**Table 283 Ethernet and Token Ring SwitchProbe Specifications**

Description	Specifications
Dimensions (H x W x D)	3 x 12 x 13.5" (7.6 x 30.5 x 34.3 cm)
Weight	11 lbs (5 kgs)
Ethernet interfaces	AUI (Thicknet) RJ-45 (10BaseT) BNC (Thinnet)

Description	Specifications
Token Ring interfaces	9-pin D type STP RJ-45 socket UTP
Memory	4-MB standard for Ethernet and Token Ring models 8-MB standard for dual Ethernet and dual Token Ring models Expandable to 16 MB
Temperature	32 to 131°F (0 to 55°C)
Humidity	5% to 95% noncondensing
Power	120 VAC/240 VAC, 50/60 cycles 60W autoswitching
Agency approvals	UL, CSA, FCC, TUV, CE, VCCI, AUSTEL

**Table 284 Fast Ethernet, CDDI, and FDDI SwitchProbe Specifications**

Description	Specifications
Dimensions (H x W x D)	6.75 x 17 x 16" (17.1 x 43.2 x 40.6 cm)
Weight	24 lbs (10.9 kgs)
CDDI interfaces	RJ-45 accepts Category 5 UTP or Category 5 sheath-shielded, 100-ohm twisted pair cable with TP-MIC plug
FDDI interfaces	Single or dual SC type connectors accept SC-to-SC or SC-to-MIC multimode fiber-optic cable Console, SLIP: 9-pin D male supporting EIA/TIA-232 <sup>1</sup> signals (SLIP support is standard)
Fast Ethernet interfaces	Half-duplex TX, 100BaseTX, RJ-45 Full-duplex TX, 100BaseTX, RJ-45 Half-duplex FX, 100BaseFX, SC connector Full-duplex FX, 100BaseFX, SC connector
Side-band Ethernet	AUI (Thicknet), BNC (Thinnet), RJ-45(10BaseT) selected through internal strapping
Side-band Token Ring	9-pin D type (STP), RJ-45 UTP autoselected
Memory	8 MB standard for Fast Ethernet models 8 MB standard for CDDI models 16 MB standard for FDDI models Expandable to 32 MB
Temperature	32 to 104°F (0 to 40° C)
Humidity	5% to 95% noncondensing
Power	120 VAC/230 VAC, 50/60 cycles 200W
Agency approvals	UL, CSA, FCC, TUV, CE, VCCI, AUSTEL

1. EIA/TIA-232 was known as recommended standard RS-232 before its acceptance as standard by the Electronic Industries Association (EIA) and Telecommunications Industry Association (TIA).

## Product Numbers

Table 285 lists product numbers for the SwitchProbes. For Workgroup SMARTnet product numbers, refer to Table 347 in the chapter “Customer Services and Support.” For documentation product numbers, refer to Table 358 in the chapter “Documentation.”

**Table 285 SwitchProbe Product Numbers**

<b>Description</b>	<b>Memory</b>	<b>Product Number</b>
Ethernet SwitchProbe, monitors 1 segment	4 MB	WS-PROBE-ETH-4M
Dual Ethernet SwitchProbe, monitors 2 segments	8 MB	WS-PROBE-DUAL-ET
Token Ring SwitchProbe, monitors 1 ring	4 MB	WS-PROBE-TR-4M
Dual Token Ring SwitchProbe, monitors 2 rings	8 MB	WS-PROBE-DUAL-TR
CDDI SwitchProbe with Ethernet side band	8 MB	WS-PROBE-SCDDI-ET
CDDI SwitchProbe with Token Ring side band	8 MB	WS-PROBE-SCDDI-TR
FDDI (SAS) SwitchProbe with Ethernet side band	16 MB	WS-PROBE-SFDDI-ET
FDDI (SAS) SwitchProbe with Token Ring side band	16 MB	WS-PROBE-SFDDI-TR
FDDI (DAS) SwitchProbe with Ethernet side band	16 MB	WS-PROBE-DFDDI-ET
FDDI (DAS) SwitchProbe with Token Ring side band	16 MB	WS-PROBE-DFDDI-TR
Fast Ethernet, half duplex, TX	8 MB	WS-PROBE-FE-HD-TX
Fast Ethernet, full duplex, TX	8 MB	WS-PROBE-FE-FD-TX
Fast Ethernet, half duplex, FX	8 MB	WS-PROBE-FE-HD-FX (available July 1996)
Fast Ethernet, full duplex, FX	8 MB	WS-PROBE-FE-FD-FX (available Q3 1996)